

2016 FIRE ASSESSMENT REPORT

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Executive Summary

In Zimbabwe, uncontrolled fires are a challenge that result in substantial damage to the environment, life, property and the economy. The Ministry of Environment Water and Climate through the Environmental Management Agency seeks to reduce the negative impact of fires through monitoring, law enforcement, education and awareness. This publication gives an overview of the Agency's efforts in achieving this goal in the 2016 fire season.

The 2016 fire season recorded a total of 1 652 fire incidences resulting in 1 197 335 hectares of land being destroyed by fire compared to 1881 incidences and 1 336 746 hectares burnt in the 2015 fire season. This translated to 10.4% reduction in the area burnt by uncontrolled fires and a 12% reduction in fire incidences. Despite the reduction in hectares burnt, the country continues to lose human lives. A total of 7 lives were lost to fires and an estimated cost of \$241,569 lost to property, plantations, agricultural produce, farm equipment and livestock.

The majority of the fires were recorded in the new resettlement areas with a total of 599 444 hectares as compared to communal lands with a total of 145 484 hectares burnt. The protected areas continued to experience significant fires during the reporting period as evidenced by the burnt area in forests and national parks where 22 292 hectares and 106 899 hectares were destroyed respectively. Mashonaland West Province had the largest area burnt with a total 631 622 hectares.

The Agency in collaboration with key stakeholders undertook a number of fire management activities which led to a reduced hectarage being destroyed by fire during the reporting period. A total of 24 veld fire district consultative meetings were held country wide and the national fire week commemorations done

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in all the rural provinces. The national event was held at Nyambiri Primary School in Seke District, Mashonaland East province. The launch was graced by the Ministry of Environment Water and Climate in collaboration with the President of the National Chiefs' Council of Zimbabwe Chiefs, Chief Fortune Charumbira. A total of 92 National Fire Week commemorations were held nationwide with a total attendance of 63 319 people.

A total of 857 fire management capacity building meetings were held reaching out to 85 135 people. The focus for the meetings was on reinforcing the need for organised firefighting teams in fire prone areas and empowering communities to manage veld fires in their local areas. The meetings helped the communities to understand how they can actively participate in veld fire management projects like hay baling and fire guard construction on their properties. The Agency continued with its education and awareness programmes for traditional leadership with a total of 1 970 chiefs and headmen attending these events.

A thrust on ensuring that communities put value to forest produce triggered participation by local communities resulting in 555 476 bales of hay being produced with an estimated value of \$833 214.00 being sold from fire prone districts. The hay baling and thatch grass combing projects were done to reduce biomass while deriving monetary value from the veld. The grass combing projects were successful in the Mashonaland East and Matabeleland South Provinces where 141 221 thatch grass bundles were collected protecting a total of 387.4 hectares.

Law enforcement agents and the judiciary are crucial partners in the development, interpretation, implementation and enforcement of environmental law. The period under review had 14 fire cases handled by traditional leaders and 35 cases by the Zimbabwe Republic Police (ZRP). A total of 1 425 orders

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were served to property owners and community leadership to construct fireguards on their properties before the beginning of the fire season.

The Agency is worried about the negative impacts of fires on the economy. Based on the normal to above normal rains received in the 2016 to 2017 rainfall season, property owners to be wary of fierce and violent fires in the 2017 season. In order to avoid property loss, farmers are advised to put in place standard fire guards and have adequate fire suppression in place.

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1.0 Introduction

This report covers the 2016 fire season activities. The major activities were putting in place pre fire season suppression measures as well as awareness creation and training. Orders were served to farmers for the construction of fireguards on their properties. This was followed by compliance checks for the orders and prosecution of the offenders. Lastly, fire damage assessments were done.

2.0 Burnt Area

The 2016 fire season recorded a total of 1 652 incidences resulting in 1 197 335.52 ha of land being destroyed by fire while 1 881 incidences and 1 336 746.77 ha were burnt in the 2015 fire season. This translates to 10.4% reduction in the area destroyed by veld fires and a 12% reduction in fire incidences.

Mashonaland West (631 622 ha), Mashonaland Central (188 219 ha), Matabeleland North (157 550 ha), and Mashonaland East (112 729 ha) experienced significant fires in the 2016 fire season as indicated in the figure below.

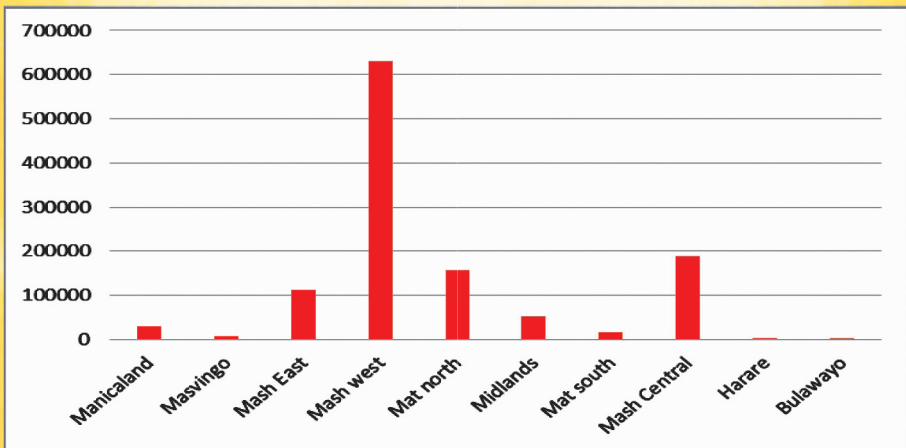
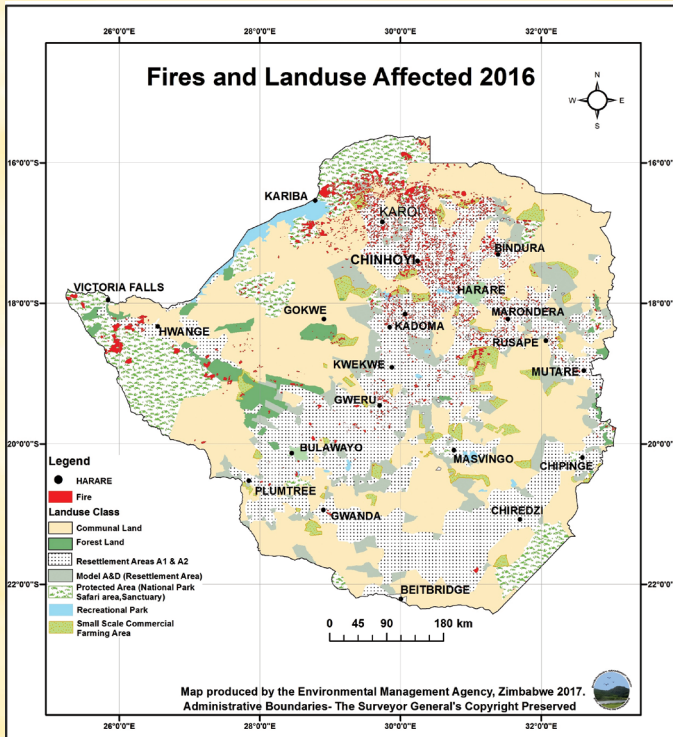


Fig 1: Area Burnt per Province

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Map 1: Area Burnt

3.0 Fire Education and Awareness

3.1 Fire indabas

The Agency continued to hold fire indabas throughout the country with emphasis in the fire prone districts and wards. The indabas were intended to conscientise communities and stakeholders on their responsibilities regarding fire management. Fire indabas present a platform to the community and leadership to judge how their respective areas contributed to the hectareage destroyed by fire in the 2015 fire season. A total of 24 veld fire district indabas were held country wide with Manicaland (6), Mashonaland Central (5) and Matabeleland South (5) holding the highest number of district indabas. The table below gives a breakdown of fire indabas held throughout the country.

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Table 1: Fire Indabas held

Provincial Indaba	District Indabas	Comments
Mashonaland West	2	Fire Action plan for the district developed
Mashonaland East	1	District fire action plan produced
Mashonaland Central	5	Fire Action plan for the district developed
Midlands	2	Fire management action plans
Manicaland	6	Fire management action plans
Mat North	1	Ward based Fire management plans were produced
Mat South	5	District fire action plan produced
Masvingo	2	District fire action plan produced
Total	24	

3.2 National Fire Week Commemorations

The national fire week which is commemorated every second week of May each year was held in all provinces with the national event being held at Nyambiri Primary School in Seke District, Mashonaland East. The launch was graced by the President of the National Council of Zimbabwe Chiefs, Chief Charumbira. A total of 92 National Fire Week commemorations were held nationwide with a total attendance of 63 319.



Plate 1 & 2: Audience during the fire launch commemoration held in Lambamai village- Insiza District. (18/05/2016)

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Table 2: National fire week commemorations and attendance

Province	No. of events	Attendance
Midlands	7	3 600
Manicaland	17	13 730
Mash West	13	11 500
Masvingo	11	9 460
Mash Central	10	7 642
Mash East	14	10 081
Mat South	9	5 520
Mat North	11	1 786
Total	92	63 319

3.3 Fire Awareness Meetings

Fire awareness meetings were held nationwide. At these meetings, emphasis was on continued organised fire fighting, community mobilisation as well as empowering communities to manage veld fires in their local areas. The meetings helped the communities to understand how they can actively participate in veld fire management projects like hay baling and fire guard construction in their areas. A total of 857 fire awareness meeting were held countrywide reaching out to 85 135 people.

Table 3 : Fire awareness meetings held and attendance

Province	Number of awareness meetings	Attendance
Matabeleland North	114	6 731
Manicaland	56	5 934
Mashonaland East	48	2 544
Masvingo	94	13 745
Mashonaland Central	92	7 882
Midlands	340	21 000
Matabeleland South	23	1 299
Mashonaland West	90	26 000
TOTAL	857	85 135

Number of NFWL 2016 Commemorations Held Per Province

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3.4 Media Coverage

The Agency used various platforms such as social media, print and electronic media to communicate with and get feedback from the public on veld fire management. Such platforms educated and informed community members on the need to prevent veld fires and get enhanced benefits from a well-protected environment.

Electronic Media

An estimated total of 8 million people were reached out in the country through radio and television. A total of 29 radio and 12 TV programs were broadcast in an endeavour to educate the masses on veld fire management.

Print Media

An estimated 7.1 million people were reached through a total of 47 print media articles on veld fire management flighted in the country's national, regional and community newspapers which include; The Herald, Sunday Mail, The Chronicle, Manica Post, Daily News, Newsday, The Standard and The Mirror amongst others. The articles were published by journalists following media tours held by and media alerts sent by the Agency. The Agency's sponsored pages in the Herald and Chronicle also published 28 articles on veld fire management.

Toll Free

The toll free line recorded a total of 1 103 messages from stakeholders reporting on veld fires. Some were complaints on veld fires, inquiries as well as compliments.

Whatsapp

A total of 913 people communicated via the EMA Whatsapp platform. Some of the messages were from learning institutions and individuals asking questions on veld fire management.

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Facebook/Twitter

The Agency posted a total of 12 anti-veld fire messages on facebook and twitter. This reached an approximate audience of 13 440 people from all over Zimbabwe.

3.5 Fireguard Construction

Communities and individuals initiated fireguard demonstration projects from the fire awareness meetings and indabas held nationwide. Table 4 below shows the number of fireguards constructed in different provinces. A total of 90 fireguards projects were cleared.

The 90 fireguard projects cleared 4802.82 kilometres protecting 284 256.19 hectares of veld.

Partnerships have been forged with Sustainable Afforestation Association (SAA) in Mashonaland West and Pundutso Trust in Midlands in the fireguard construction programme in communal areas. These organisations assisted with equipment and also equipping communities with adequate firefighting knowledge and skills.

Table 4: Fireguards constructed

Province	District	Community	Length of fireguard (km)	Area protected (Hectares)
Midlands	Gweru	Ward 15 Somabula	130	25 000
		Ward 9 Gamepark and Zaloba	25	5 000
		Woodend conservancy and community	45	10 000
		Ward 17	50	15 000
		Browns farm Ward 15 Somabula	10	1 500
	Shurugwi	Karangamite farm	10	1 000
	Chirumanzu	Ward 15, 20	13	2 000
Mash East	Chikomba	Chivese, Nyoka	127.1	16 300
	Marondera	Svosve	109.5	12 720
	Seke	Seke	97.34	13 916
	Goromonzi	Chikwaka, Chinhamora	102.4	9 720
	Murehwa	Mangwende	114.3	15 285
	Hwedza	Svosve	70.1	9 120

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Province	District	Community	Length of fireguard (km)	Area protected (Hectares)	
Matabeleland North	Hwange	Ward 19	7.5		
		Ward 1	8.9		
		Village 56	8.9		
		Woodlands farm (ward 1)	20	1 200	
	Tsholotsho	Sipepa	3.5		
Masvingo	Chiredzi	Essenby farm	2	12	
		Magumire School-Chief Tsovani	2	12	
	Bikita	Mukaka-Chief Mukanganwi	6	80	
		Gutu	Daviot farm	14.4	1157
	Masvingo	Masvingo	Vredenburg Farm	35	468
			Heathcoat Farm	6.2	50
			Southwill	0.8	1
			Masvingo RDC	1.5	32
	Mwenezi	Mwenezi	Zimbabwe bio Energy	8.5	3500
			Baobab Ranch	20	2000
Subdivision 4 Fauna Ranch			15	1500	
Subdivision 2 Fauna Ranch			15	1500	
Matabeleland South	Matobo	Tshabalala Game Sanctuary	53	1100	
		Matopo Research-Three sisters farm	28	700	
		Rhodes Matopos national park	150	45300	
		Matopo Research-Tonbridge	119	5600	
		Matopo Research-Mhlonyane	4	110	
	Umzingwane	Umzingwane	Plot 16 Warrenharm	8	25
			Blueridge farm	12	25
			Plot one woodland	4	20
			Plot five woodland	5	50
			Plot 13 Warrenham	5	50
			Hilton farm	18	150
	Bulilima	Bulilima	Sundowns south farm	19	2 400
			Sizanani farm	14	400
			Kuthula farm	6.4	1200
			Watershed farm	13	153
	Insiza	Resettlement	280.7	34846.28	
	Mangwe	Mangwe	Resettlement	248	16523
Resettlement			250	16925	
Mashonaland Central	Mt Darwin	Ward 18 - Village 5	4.5	54	
		Ward 40 - Zunde A	1.609	16	
		Ward 40 - Zunde B	1.141	8	
		Ward 40 - Zunde C	1.1	7	
		Farm 29 Ward 21	5	57	
		Farm 27	3	34	
		Farm 61	2.5	33	
		Farm 51	600	2	
		Farm 50	500	1.61	
		Farm 48	100	0.1	

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Province	District	Community	Length of fireguard (km)	Area protected (Hectares)
Mashonaland Central	Mt Darwin	Hondoyekupedzisira village, W20	1	12.5 ha gum plantation
		Matope Prim School, W24	1	10
		Chesa area, Ward 28	20	240
		Montana farm, Ward 19	5	56.7
	Bindura	Ward 4, Bosrand Farm (A2)	7,19	129,5
		Ward 5, Rivelle Farm	9,4	166,4
		Ward 19, Jonga Farm	9,44	170
		Ward 7, Arundel Farm	5,4	97,6
		Ward 6, Liliburn	6	108
		Ward 5, Kajasuma Farm	6	300
	Mazowe	Ward 20, Eskbank Farm	15	285
		Tripple C Piggery, Villa Franca Farm, Ward 14	5	6
		Thermoville Mill, Doxford Farm, ward 22	2	2
		Citrus Farm, Ward 19	30	500
		Concorpia Farm, Ward 19	25	450
		Henderson Research station	35	600
		Christon Bank	60	30
	Mbire	Pagomojena	60	3
		Shange Conservancy	2	3200
		Mbire/Kanyemba Road	5	600
Manicaland	Kariyanga	6		
	Mutare	Mapembe, Vumba Botanical Garden	26	1 348
	Makoni	Mafurise, Mudonhodzi Temaruru	103.9	187
	Nyanga		203	750
	Chipinge	Wattle Company	30.5	37.4
Mashonaland West	Hurungwe	Hartzel School, Goldberg Toronto Farm, Redwing Mine	25,6	449
		Dugein Farm, Ward 20	20	
	Zvimba	Community	10	300
		Doonside Farm, Ward 30	10	
	Community	10	225	
Chegutu	Stockdale Farm, Pitana mine, Lismore Farm	10		
Total			4 802.82	284 256.19

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4.0 Impact of Veld Fires

4.1 Property loss

Fires continued to negatively affect the economy and the environment. Property such as farm implements, household, plantations and agricultural produce were gutted down by fires. The 2016 fire season resulted in the death of 7 people, property worth US\$84,787 plantations valued at US\$152,736 and agricultural produce, farm equipment and livestock valued at US\$4,046. The 2016 fire season cost the nation a total of US\$241,569.



Plate 3 & 4: Fire Impacts in Chitomborwizi, Makonde District ward 10, the fire resulted in 3 deaths (Date 23/09/16)

Table 5: Property Lost Due To Veld Fires

Property	District	Item/s Destroyed	Value
Household Property	Marondera	1 scotch cart (\$500), 1 wheelbarrow (\$40), 1 hut (\$60), 2 solar panels (\$100)	\$700
	Marondera	hut with clothes, pots, 4 phones, bags, 3 blankets, 5 pairs of shoes,	\$300
	Chikomba	3 toilets, 4 kraals, 1 garden, Wire fence	\$650
	Mazowe	sheep shed, home stead, 48-3 week chicks	\$25,000
	Chimanimani	water pies, Zesa cables	\$5,000
	Hurungwe	water pumps, furniture, motor mechanical accessories, 1 hut, clothes, water containers,	\$7,000
	Mzowe	home stead \$3 237, \$1 290,00	\$3,237
	Chegutu	1 hut	\$200

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Property	District	Item/s Destroyed	Value
Household Property	Mutare	A \$22 000 Zesa transformer was also destroyed, A Chinese company, 1 ha of king protease flowers, irrigation pipes	\$22,000
	Mhangura	2 huts	\$350
	Chegutu	Huts, plates cups, plastic buckets, knapsack sprayers, tent, zesa power line, kitchen unit	\$5,000
	Mazowe	25-two weeks old chicks	\$100
	Msengezi	3 pigs, 2 goats, 4 bedroomed thatched house, 4 huts, 1 barn, bicycle, cart, cow	\$3,000
	Zvimba	Cutlery, pots, huts, plates cups, plastic buckets, knapsack sprayers, tent, zesa power line, kitchen unit	\$2,000
	Mazowe	1 vehicle and one house with property	\$10,000
	Shamva	7 goats	\$250
Total			\$84,787
Agricultural goods (Live-stock, Game and crops)	Makonde	Huts, plates, cups, dinner sets, cutlery, pots, plastic buckets, tools, knapsack sprayers, tents, vegetable garden, Zesa power line pole, farms, kitchen unit	\$1,910
	Mhangura	Tobacco seed beds	\$250
	Marondera	15 bags maize (\$270), 3 goats (\$90), 4 bags fertiliser(\$100), 11 rabbits (\$55), wire poles (\$420)	\$935
	Hurungwe	bags of maize, tobacco curing barns, 10 bags of maize	\$450
	Msengezi	cow	\$250
	Marondera	1 calf (\$150), 101 heads of cabbage (\$101), 4 cattle	\$251
Total			\$4,046
Plantations	Bindura	2 ha gum plantation	\$1,000
	Mutare	247,8 ha planted pine plantation	\$37,170
	Mazowe	14 ha gum plantation, 24 ha eucalyptus plantation	\$20,000
	Chikomba	2 gum plantations, 40 ha gum plantation	\$30,000
	Bindura	14 ha of banana plantation	\$1,000
	Marondera	Gum plantation, 200 ha plantation	\$5,000
	Chikomba	Gum plantation	\$42,000
	Makoni	damaged property	\$10,000
	Chipinge	3ha Eucalyptus	\$5,000
	Mazowe	2 eucalyptus plantations	\$1,566
Total			\$152,736
Grand total			\$241,569

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4.2 Loss of Human Life

Veld fires also lead to the loss of human life. The young and the old are the most vulnerable during veld fire outbreaks. In response the Agency intensified awareness campaigns addressing this problem. A total of seven (7) lives have been lost to veld fires compared to sixteen (16) lives in 2015. Table 6 below gives a detail of the fire victims.

Table 6: Fire Related Deaths

Date	Province	Name	Cause of Death	Age	Area
08/10/2016	Mash East	Gibson Murandu	Children playing with fire (fatal fire burns (trapped by fire)	5 years	Makuvaza Village ward 7, Seke District
23/09/2016	Mash West	Germina Philippa Sotera	land clearing for farming purposes	35 years	Chitomborwizi ward 10 Makonde district
24/09/2016	Mash West	Peter Kore	land clearing for farming purposes	39 years	Chitomborwizi ward 10 Makonde district
24/09/2016	Mash West	Edith Gwite	land clearing for farming purposes	27 years	Chitomborwizi ward 10 Makonde district
31/08/2016	Mash West	Miriam Mastaira	Suspected veldt fire incident	above 80 years	Farm 105, Chakari ward 3, Sanyati district
2/10/2016	Midlands	Reason Sibanda	Land clearing	2 years	Gwanzura Farm, Gokwe South
10/28/2016	Midlands	Old lady	Trying to put out a veld fire	59 years	Lot 1 of Desvigs Farm, Lower Gweru

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4.3 Land use Affected by Fires

Veld fires continued to affect land uses differently. These fires were caused mostly by human activities. The majority of the fires were in the new resettlement areas (599 444ha) and communal lands (145 484 ha). The protected areas continued to experience significant fires as evidenced by forests (22 292 ha) and national parks (106 899 ha). These fires are mainly driven by arson and conflicts between communities and the managing authorities.

Table 7: Land use affected by fires

Land use	Area burnt (ha)
Communal lands	145 484.78
Resettlement areas A1 & A2	599 444.46
Model A & D	39 650.79
National parks	106 899.16
Safari areas	201 416.00
Small scale farms	74 057.18
Forest	22 292.98
Recreational park	5 531.66
Urban	1 092.27
Sanctuary	66.09
Other land	1 400.15
Total	1 197 335.52

4.4 Fire Behaviour Analysis

4.5 Occurrence of Fires in Relation to Distance from the Road Network

Data analysis was done to determine the relationship that exists between fire incidences and distance from the major roads for the months of August, September and October. Fire behaviour analyses was also done to understand the factors that influence ignition and fire spread.

The fire incidence data used was obtained from the fire station and FIRMS website. In the analysis, roads were buffered at 2, 4,

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6, 8 and 10 kilometre intervals away from the roads. The results indicated that in 2016, a positive correlation existed between the number of fire incidences and distances from the road meaning that more fire incidences occurred as one moved away from road network and the frequency of fires decreases with decrease in distance from the road in all the cases.

In the month of September data analysis revealed that the relationship between fire incidences and distance from the road was 99% ($p < 0.07$), August 97% ($p < 0.5$) and October 97% ($p < 0.04$). This shows that most fires occur as one moves away from the road network.

The results of the analysis imply that road awareness campaigns done from 2014 to date have borne fruit as shown by reduction in fires along the road servitudes compared to 2013.

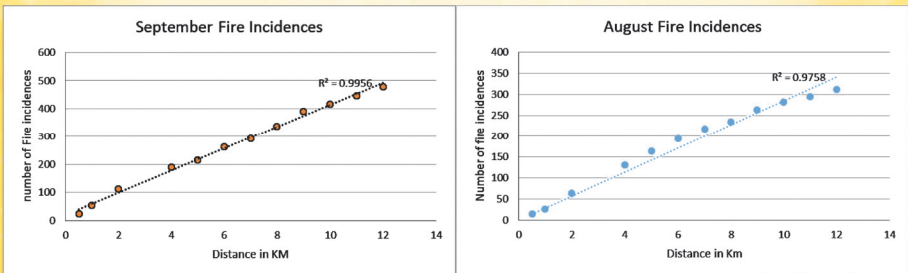


Figure 2 & 3: Fire Incidences and distance from road in September and August 2016

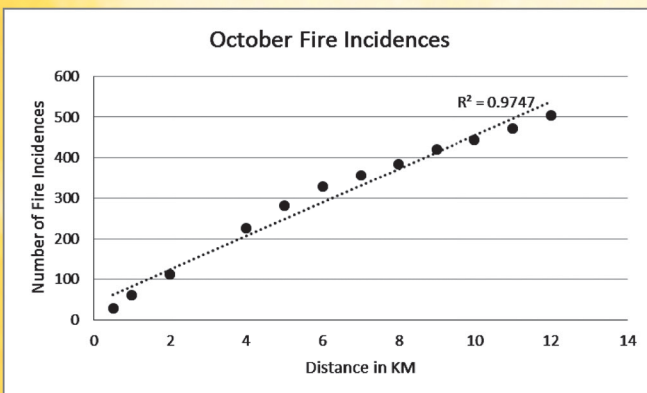


Figure 4: Fire Incidences and distance from road in October 2016

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4.6 Relationship Between Burnt Area and Distance from Roads

An analysis to determine the extent of area burnt near the road network was also done. The results indicate that in 2016 less area was burnt near the road network but more area was burnt as one moved away from the road.

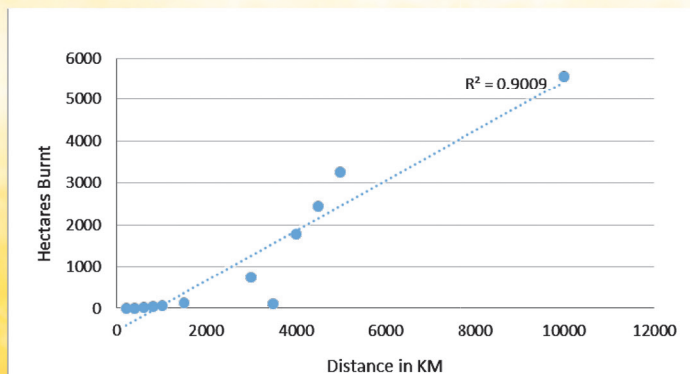


Figure 5: Hectarage burnt and distance from road

4.7 Distance from Settlements and area burnt

The high number of fire incidences recorded in communal and resettlement areas led to a study on the relationship between distance from the settlements and fire incidences. The settlements were buffered at the following distances in metres (500, 1 000, 1 500, 3 000, 3 500, 4 000, 4 500, 5 000, 6 000, 7 000, 8 000, 9 000 and 10 000). The results show that most fires occur from at least 2 kilometres from settlements. At this distance usually there are fields or grazing land and communities feel less affected hence the reluctance to extinguish the fires. More educational campaigns are needed aimed at conscientising communities on the value of veldt and the destructive nature of fires.

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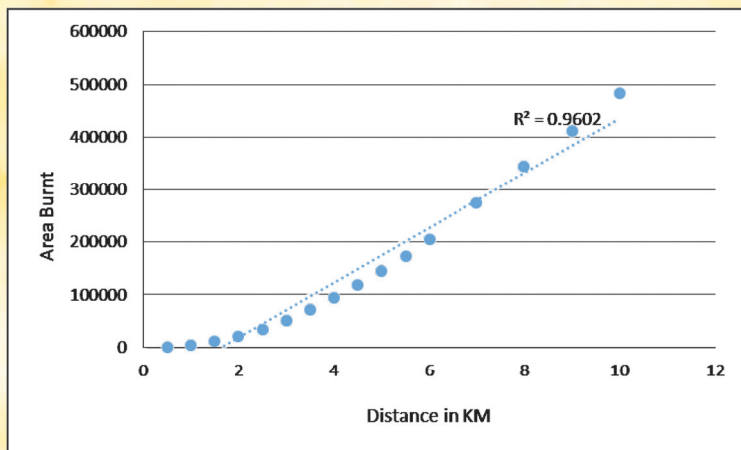


Figure 6: Hectare burnt and distance from settlements

4.8 Time of fire occurrence

A research to understand times to fires occurrences was done using the incidences that occurred in 2016. A time series analyses was done for the incidences and the results indicate that 52.1% of the fires are ignited between 08.30 hrs and 11.30 hrs these are followed by morning fires. This research shows that the majority of the fires occur during day time hence can be controlled.

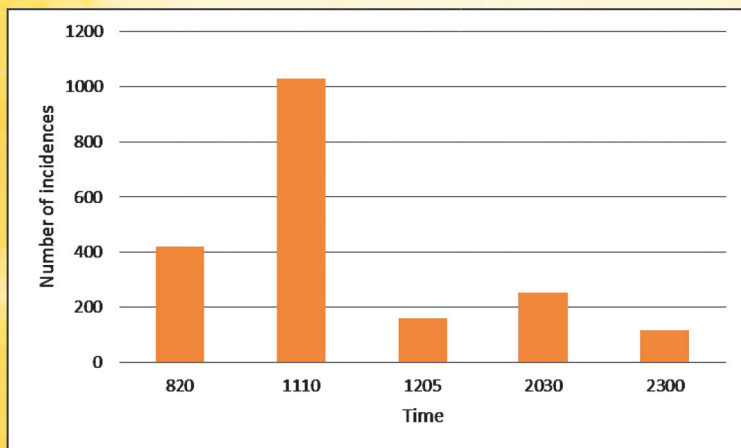


Figure 7: Time of occurrence of fires

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5.0 Prosecutions

5.1 Orders served

Fire related orders were issued to property owners to ensure that they put in place adequate measures to mitigate against the fire scourge. Compliance checks were also done to ensure that property owners complied with previous year served orders. A total of 1 425 orders were served to property owners and community leadership to construct fireguards on their properties before the beginning of the fire season. Mashonaland Central served 417, the highest number of fire orders to date, being a fire prone province the fire orders helped in reducing area burnt as evidenced by the statistics. Table 8 below details fire orders served.

Table 8: Orders Served For Fireguard Construction

Province	Number Orders
Matabeleland North	41
Matabeleland South	152
Midlands	281
Mashonaland East	395
Mashonaland West	139
Mashonaland Central	417
Manicaland	-
Masvingo	-
TOTAL	1 425

5.2 Tickets

Fire related tickets were issued to most offenders that were identified who were not taken to the courts during the reporting period. The tickets were issued for offences such as failure to put appropriate fireguards, failure to put out fires, deliberately starting fires during the fire season and refusing to put out fires.

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Table 9 below shows the total fine assessed from fire related tickets issued in the different provinces as well as the dockets that were opened with Zimbabwe Republic Police (ZRP). A total of 108 tickets were issued that had a composite sum of \$2440 for fire related crimes. Mashonaland West province issued the highest number of tickets. A total of 35 dockets were opened nationwide.

Table 9: Fire related tickets

Province	Number of tickets	Value of tickets (\$)
Mashonaland East	21	1850.00
Mashonaland West	56	-
Masvingo	16	320
Midlands	10	100
Manicaland	2	100
Matabeleland North	3	70
TOTAL	108	2440

5.3 Traditional and Magistrates courts

Law enforcement agents and the judiciary are crucial partners in the development, interpretation, implementation and enforcement of environmental law. The period under review had 14 fire cases that were handled by traditional leaders. All the cases that were brought to finality with a maximum charge being levelled by Chief Chipuriro of US\$ 250 to a land clearance fire related crime. One case has since been tried by Magistrates in Midlands Province and the culprit fined US\$300.00 or 6 months imprisonment.

The Agency continued to work with law enforcement agencies in order to curb environmental losses caused by veld fires. The Agency also encouraged traditional courts to preside over all fire related offences as they have capacity to hand down timeous judgements which would deter the community from committing fire related offences.

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6.0 Training

Training was done for firefighting teams, law enforcement agents, traditional leaders, environmental monitors and environmental subcommittees. The aim of the training was to clearly spell out the roles played by different parties in fire management and equipping communities with firefighting techniques. Trained stakeholders were expected to share the burden caused by fires by having all parties playing their part. Communities were also trained in fire beater making from locally available materials. A total of 1970 traditional leaders and 454 fire fighters were trained countrywide.

Table 10: Training on fire management

Province	No. Firefighting teams	No. of Traditional leaders trained	No. of police officers trained	No. of Environmental subcommittees trained
Masvingo	27	626	4	27
Mashonaland West	11	81	72	54
Mashonaland East	33	233	48	49
Matabeleland North	99	681	-	89
Matabeleland South	242	49	-	69
Manicaland	7	153	12	10
Midlands	15	14	-	-
Mashonaland Central	20	133	35	23
Total	454	1970	171	321



Plate 5: Summertown Fire-Fighting Team demonstrating how to extinguish a veld fire, in village 9, Ward 6 of Masvingo district. (31/08/16)

6.1 Integrated Natural Resources and Fire Management Community Empowerment

The integrated sustainable community environmental and fire management empowerment programme is a strategic approach to the wise use and conservation of natural resources. A total of 5 047 participants from 33 constituencies were trained. The Ministry of Environment, Water and Climate created an integrated empowerment programme to achieve sustainable management of natural resources. Specialist trainers were drawn from EMA, ZINWA, Forestry Commission, Parks and Allied Timbers and this brought out the linkages of the Ministry's parastatals with other relevant Government Departments such as Agritex and REA complementing the technical training team. The programme adopted a training of trainers' model on the sustainable utilisation of natural resources bringing out the symbiotic relationship among the various facets of the environment.

Communities were empowered to implement projects that improve their livelihoods through income generation whilst conserving their natural resources. Communities were trained in beehive making and beekeeping, establishment of fruit and indigenous tree nurseries, hay baling, thatch grass combing, consolidated gardens, biogas and desilting of weirs. Water is critical for all the projects that the communities will embark on, therefore gully reclamation, soil and water conservation were critical in the integrated holistic approach. The participants were issued with certificates at their respective graduation ceremonies and were also given bee hives, and quail birds in order for them to kick start the projects. A total of 9 529 quail birds, 210 bee hives, 175 road runners and 2100 tree seedlings were distributed as project start up resources.

It is hoped that the training programme will lead to communities valuing and protecting their environment while at the same time deriving a livelihood from the various projects.

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Table 11 Integrated Fire Management Programme Outputs

No. of constituencies	No of people trained	Quails distributed	Road runners distributed	Beehives distributed	Tree seedlings distributed	No of wards
33	5 047	9 529	175	210	2100	245

7.0 Hay Baling Projects

The hay baling project and grass combing projects are done to reduce biomass while deriving monetary value from the veld. Communities were engaged to implement the project and a total of 555 476 bales were made countrywide with an estimated value of \$833 214.00. It is after realising the value of forests produce and environment that communities tend to fully protect the environment from veld fires. Some enterprising farmers have found markets for the hay in the Middle East.



Plate 6: Buyers load thatch grass bought from Mr. Chikaka at a site opposite Dirozvi Centre in Chivhu



Plate 7: Processed thatch grass small bundles in Chitowa, Ward 7, Mutoko along the Mutoko-Nyamapanda highway for sale

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Table 12: Hay baling projects

Province	District	Project area	Targeted community	Total number of bales	Total value. @\$1.50/ bale
Midlands	Chirumanzu	20 000 hectares	Ward 15 and 20	1 000	\$1 500.00
	Shurugwi	Karangamite	Karangamite Farm	10 000	\$15 000.00
	Gweru	Somabula	Grasslands Farm	30 000	\$45 000.00
		Lingfield Farm	Lingfield	40	\$60.00
		500	Dawsons Farm	22 000	\$33 000.00
Mash East	Chivhu	405 hectares cleared	Chivhu	81 752	\$122 628.00
	Chikomba			1 580	2 370.00
	Marondera			75 000	112 500.00
	Seke			3 900	5 850.00
	Murehwa			722	1 083.00
	Hwedza			550	825.00
Mani-caland	Mutasa	27 ha	Franklin Farm	110	\$165.00
	Mutasa	L'amour Farm	Ward 23	256	\$384.00
	Makoni	Merion Farm	Ward 17	150	\$225.00
Mat North	Hwange	42 km	Victoria Falls	240	\$360.00
Mat South				6 000	\$9 000.00
Mash Central	Mazowe		Glenara Farm	8700	\$13 050
Mash West				310 976	\$466 464.00
Masvingo	Masvingo	Cheek Farm	Ward 32	2 500	3 750.00
Total				555476	\$833,214.00



Plate 8: Hay bales at Chick Farm Ward 8 Masvingo District

The grass combing projects have been successful in the Mashonaland East and Matabeleland South Provinces. A total of 141 221 thatch grass bundles were collected nationwide protecting a total of 87.4 hectares.

Table 13: Grass combing projects

Province	No. of thatch grass Bundles	Area cleared (ha)
Mash East	25 671	14
Mat South	14 500	22
Midlands	1 000	50
Mat North	50	1.4
Manicaland	100 000	—
Total	141 221	87.4

7.1 Bee keeping

The Agency together with other strategic partners embarked on forest management projects that included apiculture as a way to stimulate environmental stewardship and prevent veld fires. The bee keeping projects ensure that communities benefit from natural resources management in their respective areas by

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engaging in low investment high return and low maintenance projects such as apiculture. A total of 486 beehives have been distributed to communities.

Communities are now value adding the honey by processing and packing before selling. This has improved live hood options and increased environmental stewardship.



Plate 9: Muravapu project chairperson, Mrs Chikotosa displaying bottles of processed honey from the project. [Photo 25.01.16]



Plate 10: Participants and facilitators pose for a photo after the completion of a two day bee keeping training workshop for Ngezi-Mtegesa Beekeeping project in Chikomba. [06.07.16]

The distribution of the apiculture projects in the provinces is as indicated in Table 14.

Table 14: Beekeeping projects

Province	Number Of Beehives
Mashonaland Central	114
Matebeleland North	35
Mashonaland East	149
Masvingo	33
Manicaland	130
Midlands	25
TOTAL	486

8.0 Conclusion

The efforts put by the Agency and various stakeholders in fire management have led to a reduction in hectarage lost to fires and their impacts. The Agency will intensify its fire management programmes in the following fire season. Stakeholder involvement with other government arms such as Forestry Commission, Local Government and ZRP will be at the core of fire management. Traditional leaders will continue to take a leading role in veldt fire management.

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Annex 1: Fire Related Pictures



Plate 11 & 12: Showing attendants during the fire launch commemoration held in Lambamai village-Insiza district. (18/05/2016)



Plate 13 & 14: Picture combo showing presentations by Hon. Mkwangwariwa and Senator Musaka during the fire indaba feedback meeting. 13/07/16



Plate 15 & 16: Left Picture combo showing Chief Chundu receiving a bicycle for his area and right monitor Sadza for ward 22 also receiving his bicycle from the Propol for Mash West Snr. Ass. Com. Mrs Mushaurwa. Looking on are Chief Chanetsa, DA's representative Ms Gudhu and PEM for Mash West Mrs Mutepta

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Plate 17 & 18: Picture combo showing village heads at Chief Chirau fire Indaba held at Chirau hall in ward



Plate 19: Part of the 75 000 piled hay bales observed at Argos Buyers in Marondera Ward 3. [Photo by Bowora E. 18.08.16] Plate 20: Hay bales at Montlavina farm, Seke [Photo by Bowora E. 08.07.16]

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Annex 2:

Table 15: District Area burnt 2016

DISTRICT	AREA BURNT (HA)
BIKITA	0
CHIREDDI	526.43
MASVINGO	463.84
ZAKA	0
CHIVI	0
GUTU	2 284.73
MWENEZI	4 220.14
CHIRUMHANZU	12 400.35
GOKWE NORTH	3 370.88
GOKWE SOUTH	6 918.47
KWEKWE	6 402.37
MBERENGWA	0
GWERU	21 854.90
SHURUGWI	481.76
ZVISHAVANE	0
BULILIMA	2 674.51
GWANDA	2 466.47
INSIZA	6 532.76
UMZINGWANE	96.93
MATOBO	2 302.49
MANGWE	2 175.37
BEITBRIDGE	97.46
SHAMVA	12 813.57
RUSHINGA	375.04
MUZARABANI	41 645.52
MT DARWIN	12 380.31
BINDURA	26 572.68
GURUVE	28 730.84
MAZOWE	45 925.21
MBIRE	19 776.38

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DISTRICT	AREA BURNT (HA)
CHEGUTU	48 812.42
HURUNGWE	249 850.05
KARIBA	71 813.02
MAKONDE	135 569.67
MHONDORO	6 378.43
SANYATI	26 710.91
ZVIMBA	92 488.37
BUHERA	0
CHIMANIMANI	4 620.88
MUTASA	1 941.30
NYANGA	8 595.78
CHIPINGE	539.10
MAKONI	11 135.17
MUTARE	4 018.29
CHIKOMBA	35 667.54
GOROMONZI	14 034.61
HWEDZA	9 188.99
MARONDERA	18 274.74
MUDZI	208.81
MUTOKO	629.71
MUREHWA	10 240.42
UMP	847.22
SEKE	23 637.83
BINGA	8 460.15
BUBI	8 328.62
HWANGE	112 348.4
LUPANE	18 811.56
NKAYI	4 373.66
UMGUZA	1 907.11
TSHOLOTSHO	3 321.07
HARARE	917.81